# Optimized Blocking Impurity Placement for SiGe HBTs

## Abstract of the Disclosure

A high performance SiGe HBT that has a SiGe layer with a peak Ge concentration of at least approximately 20% and a boron-doped base region formed therein having a thickness. The base region includes diffusion-limiting impurities substantially throughout its thickness, at a peak concentration below that of boron in the base region. Both the base region and the diffusion-limiting impurities are positioned relative to a peak concentration of Ge in the SiGe layer so as to optimize both performance and yield.

## Figures